

In re Patent Application of:

LEAMING

Serial No. 10/829,007

Filing Date: April 21, 2004

REMARKS

The Examiner is thanked for the thorough examination of the present application, and for the courtesies extended to the undersigned attorney during the telephonic interview of March 7, 2007. During the interview, the rejection of independent Claims 1, 10, 19, and 28 over Maier in view of Lu et al. was discussed. The undersigned attorney proposed amending these claims to more clearly define the subject matter thereof over the prior art, namely by reciting that the system utilization metric is based upon a number of other devices communicating with the host device, and then argued why the prior art of record fails to teach this recitation, as discussed further below. The proposed amendments were well received by the Examiner, and he indicated that with such amendments he was favorably inclined to withdraw the current rejection of the claims. Accordingly, this amendment has been made to Claims 1, 10, 19, and 28 above. Support for the amendments may be found in paragraph 0044 of the originally filed specification, for example. No new matter is being added.

Claims 36-41 have been cancelled.

In view of the amendments and the arguments presented in detail below, it is submitted that all of the claims are patentable.

I. The Claimed Invention

The present invention is directed to an integrated circuit for a smart card. As recited in amended independent Claim

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1, for example, the integrated circuit includes a transceiver and a processor for communicating with a host device via the transceiver. The processor is for providing at least one default descriptor to the host device, cooperating with the host device to perform an enumeration based upon the at least one default descriptor, and detecting a system utilization metric exceeding a threshold and, responsive to the system event, providing at least one alternate descriptor to the host device and cooperating with the host device to perform a new enumeration based thereon. Moreover, the system utilization metric is based upon a number of other devices communicating with the host device.

Independent Claim 10 is directed to a related smart card, independent Claim 19 is directed to a related smart card system, and independent Claim 28 is directed to a related method.

II. The Claims Are Patentable

The Examiner rejected independent Claims 1, 10, 19, and 28 based upon U.S. Published Patent Application No. 2005/0251596 to Maier in view of U.S. Published Patent Application No. 2005/0108571 to Lu et al. Maier is directed to a USB system including a main device and an auxiliary device arranged to cooperate with one another. The auxiliary device provides a core functionality and has descriptors associated therewith. More particularly, the auxiliary device has at least one descriptor that defines a functionality that is different from the core functionality. See, e.g., paragraph 0016-0019 of Maier.

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As noted above, independent Claims 1, 10, 19, and 28 have been amended to recite that the system utilization metric is based upon a number of other devices communicating with the host device. In paragraphs 0042-0057, Maier discloses a scenario in which during a first enumeration procedure, only the standard service **SO** of the USB device is loaded and activated for use (see paragraphs 0043-0044 of Maier), but additional services to be subsequently activated are then negotiated between the host and the smart card (see paragraphs 0045-0048 of Maier). Thereafter, a negotiation flag is set indicating that the additional services to be activated have already been negotiated, and the USB device detaches and re-attaches itself to the USB bus. A second enumeration then takes place in which, because the negotiation flag is already set, only the descriptors associated with the additional services to be activated are loaded (see paragraphs 0049-0056 of Maier).

As discussed during the above-noted telephonic interview, the reason that the USB device in the Maier system detaches and re-attaches to the USB bus is NOT based upon a system utilization metric exceeding a threshold, where the system utilization metric is based upon a number of other devices communicating with the host device. Rather, the reason for its detachment has nothing to do with any other devices that are communicating with the host, but rather is merely for the purpose of installing additional services not originally initialized with the device. That is, the point of this configuration is simply to

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make the USB device appear as a mass storage device to the host upon re-attachment. As noted at paragraph 0018 of Maier:

"the Smart Card (USB device) is seen as a mass storage. It is then possible to install a driver and/or an application from the USB device by simulating that the USB device is a mass storage. The USB device can thus be used in any USB host, even if the driver(s) are not installed nor available, since the driver(s) is(are) available in the USB device itself. A user can thus use, for example, the login application directly from the USB device." (Emphasis added).

In stark contrast, the invention recited in the above-noted amended independent claims advantageously allows re-enumeration using one or more alternate descriptors to allow more efficient utilization of limited bus bandwidth when the utilization metric indicates that bus utilization is above the threshold (i.e., the utilization of the bus by other devices communicating with the host is high), for example. See, e.g., paragraphs 0015 and 0043-0044 of the originally filed specification.

Maier simply fails to teach or fairly suggest the above-noted deficiency, as does the remaining prior art of record. Accordingly, it is submitted that independent Claims 1, 10, 19, and 28 are patentable over the prior art. Their respective dependent claims, which recite yet further

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distinguishing features, are also patentable over the prior art and require no further discussion herein.

CONCLUSION

In view of the foregoing, it is submitted that all of the claims are patentable. Accordingly, a Notice of Allowance is requested in due course. Should any minor informalities remain to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



JOHN F. WOODSON, II

Reg. No. 45,236

Allen, Dyer, Doppelt, Milbrath
& Gilchrist, P.A.

255 S. Orange Avenue, Suite 1401

Post Office Box 3791

Orlando, Florida 32802

407-841-2330

Attorney for Applicant